Mathematics of Data Management
MDM4U1

Course Description:

This course broadens students' understanding of mathematics as it relates to managing data. Students will apply methods for organizing and analysing large amounts of information; solve problems involving probability and statistics; and carry out a culminating investigation that integrates statistical concepts and skills. Students will also refine their use of the mathematical processes necessary for success in senior mathematics. Students planning to enter university programs in business, the social sciences, and the humanities will find this course of particular interest.

Level:	University
Credit Value:	1.0
Pre-requisite:	MCR3U1 or MCF3M1
Department:	Mathematics
Course Fees:	None

Textbooks & Resources:

- Growing Success: Assessment, Evaluation and Reporting in Ontario Schools
- The Ontario Curriculum Document, Grades 11 and 12: Mathematics, 2007 (revised)
- McGraw Hill Data Management 12 (on-line resource)

Course Evaluation: Student Evaluation consists of three components…

1) Learning Skills & Work Habits:

Students are evaluated on 6 Learning Skills & Work Habits. The 6 essential skills are:

- Responsibility
- Organization
- Independent Work
- Collaboration
- Initiative
- Self-Regulation

These six attributes are evaluated on a scale of Excellent (E), Good (G), Satisfactory (S) & Needs Improvement (N) and reported on the report card. They are not included in the course mark, unless specified in the curriculum expectations.

2) Term Mark (Assessment of Learning):

Student performance standards for knowledge and skills are described in the curriculum Achievement Chart. The curriculum is assessed in four categories:

• Knowledge and Understanding	30%
• Thinking and Inquiry	20%
• Communication	20%
• Application	30%

Evaluation of these four categories generates the term mark. The term mark accounts for 70% of the final mark.

It is the student's responsibility to submitting evidence of learning.

3) Final Evaluation (Assessment of Learning):

The final evaluation, administered at or towards the end of the course is based on the evidence shown to the right. The final evaluation accounts for 30% of the final mark.

The final evaluation consists of:

Project	10 %
Final Exam	20 %

Final Mark = 70% Term Mark + 30% Final Evaluation

For a detailed description on Course Evaluation, see "How Did I Get That Mark!" at www.satec.on.ca

Course Conduct Policies: See Student Agenda.

Please retain this page in the front of your notebook for future reference.

Toronto District School Board

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Course Outline:

Unit	Description	Approximate Length	Unit Evaluation
Introduction to Probability	Solve problems involving the probability of an event or a combination of events for discrete sample spaces.	2 weeks	tests, quizzes
Permutations	Solve problems involving the application of permutations to determine the probability of an event.	2 weeks	tests, quizzes
Combinations	Solve problems involving the application of combinations to determine the probability of an event	2 weeks	tests, quizzes
Probability Distributions	Demonstrate an understanding of discrete probability distributions, represent them numerically, graphically, and algebraically, determine expected values, and solve related problems from a variety of applications	2 weeks	tests, quizzes
Probability Project	Use your knowledge of probability to design and analyze a game involving chance.	1 week	project
Organization of Data for Analysis	Analyse, interpret, and draw conclusions from one-variable data using numerical and graphical summaries;	2 weeks	assignments, tests, quizzes
Probability Distributions for Continuous Variables	Analyse, interpret, and draw conclusions from two-variable data using numerical, graphical, and algebraic summaries.	2 weeks	assignments, tests, quizzes
Two-Variable Data Analysis	Describe key features of the normal distribution, and solve related problems from a variety of applications.	2 weeks	assignments, tests, quizzes
Statistics Project	design and carry out a culminating investigation that requires the integration and application of the knowledge and skills related to the expectations of this course; communicate the findings of a culminating investigation and provide constructive critiques of the investigations of others.	on-going	project

Note: The order of the units of study may change due to student needs and resources available during the course.

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General Information:

Mathematics continually builds on previous lessons. Hence, daily attendance is important. Students are responsible for catching up on missed lessons and work.

It is expected that all students will write tests as a class group. If a student is unable to write the evaluation with the class, then the student must inform the teacher at least two school days in advance of the test so that alternate arrangements can be made.

Students who are absent on the day of the test due to illness or a family emergency must have their parents phone the amth office at 416 396-3365 x20245 on the day of the test explaining why they will be absent. (Doctor's notes will be required from students who miss more than one scheduled test.) Alternate arrangements will be made for these students to write the test.

Students missing their tests or assignment deadlines due to unexplained absences will receive a mark of zero.

For more information on the missed test/assignment policies, please see the agenda.